WHAT IS CLAIMED IS:

1. A surface emitting semiconductor laser including a resonator formed on a substrate and emitting a laser beam toward a direction vertical to the substrate from an emitting surface formed on an upper surface of the resonator, the resonator including:

a first mirror formed above the substrate;

an active layer; and

a second mirror located oppositely to the first mirror and sandwiching the active layer therebetween;

a reflectivity adjustment layer that is formed on the emitting surface;

the second mirror including a layer of which an optical thickness is $m_1 \lambda /2$ (m_1, a natural number), if a wavelength of the laser beam is λ; and

an optical thickness of the reflectivity adjustment layer being $(2m_2-1) \lambda /4$ (m_2, a natural number).

2. The surface emitting semiconductor laser claimed in claim 1, reflectivity of the laser beam in a first region being larger than reflectivity of the laser beam in a second region, if the first region is defined as a region comprising the reflectivity adjustment layer and a lower region of the reflectivity adjustment layer in the second mirror, and the second region is defined as a region except the first region in the second mirror.

3. A surface emitting semiconductor laser including a resonator formed on a substrate and emitting a laser beam toward a direction vertical to the substrate from an emitting surface formed on an upper surface of the resonator, comprising:

a first electrode and second electrode that inject electric current into the resonator, at least a part of the first electrode being formed on the upper surface of the resonator; and

an aperture that is formed on the upper surface of the resonator, the emitting surface being formed within the aperture, and the reflectivity adjustment layer being formed on the emitting surface.

4. The surface emitting semiconductor laser claimed in claim 3, the resonator including a first mirror formed above the substrate, an active layer and a second mirror located oppositely to the first mirror and sandwiching the active layer therebetween; and

reflectivity of the laser beam in a first region being larger than reflectivity of the laser beam in a second region, if the first region is defined as a region comprising the reflectivity adjustment layer and a lower region of the reflectivity adjustment layer in the

second mirror, and the second region is defined as a region except the first region in the second mirror.

5. The surface emitting semiconductor laser claimed in claim 4, the second mirror including a layer of which the optical thickness is $m_1 \lambda /2$ (m_1, a natural number), and the optical thickness of the reflectivity adjustment layer is $(2m_2-1) \lambda /4$ (m_2, a natural number), if a wavelength of the laser beam is λ.

6. The surface emitting semiconductor laser claimed in claim 1, the layer of which the optical thickness is $m_1 \lambda /2$ constituting a top layer of the second mirror.

7. The surface emitting semiconductor laser claimed in claim 1, the reflectivity adjustment layer being transparent to the laser beam.

8. The surface emitting semiconductor laser claimed in claim 1, the plane configuration of the reflectivity adjustment layer being a circle.

9. The surface emitting semiconductor laser claimed in claim 8, the diameter of the reflectivity adjustment layer being equal to or less than 6 μ m.

10. The surface emitting semiconductor laser claimed in claim 8, the emitting surface being a circle and the reflectivity adjustment layer being arranged coaxially with a center axis of the emitting surface.

11. The surface emitting semiconductor laser claimed in claim 1, the reflectivity adjustment layer being composed of at least one of a resin hardened by heat and a resin hardened by an ultraviolet ray.

12. The surface emitting semiconductor laser claimed in claim 1, the thickness of the reflectivity adjustment layer being uneven.

13. The surface emitting semiconductor laser claimed in claim 12, the thickness of the reflectivity adjustment layer in an area close to the contact surface with the first layer being larger than that of the other area.

14. The surface emitting semiconductor laser claimed in claim 1, the second mirror being provided with a current aperture having a concentric circle-shaped plane, and an area of an inside circle of the current aperture that is larger than a sectional area of the reflectivity adjustment layer.

15. The surface emitting semiconductor laser claimed in claim 1, at least one part of the resonator including a column-like portion.

16. A light module comprising an optical wave-guide and the surface emitting semiconductor laser claimed in claim 1.

17. A light transmission device comprising the light module according to claim 16.

18. A method of manufacturing a surface emitting semiconductor laser including a resonator formed on a substrate and emitting a laser beam toward a direction vertical to the substrate from an emitting surface formed on an upper surface of the resonator, comprising:

forming a resonator on the substrate,

forming a first mirror formed above the substrate, an active layer, and a second mirror located oppositely to the first mirror and sandwiching the active layer therebetween, and

forming a layer of which an optical thickness is $m_1 \lambda /2$ (m_1, a natural number) in the second mirror;and

forming a reflectivity adjustment layer of which an optical thickness is $(2m_2-1) \lambda /4$ (m_2, a natural number).

19. The method of manufacturing a surface emitting semiconductor laser claimed in claim 18, forming the reflectivity adjustment layer further comprising forming a precursor of the reflectivity adjustment layer by ejecting a droplet onto the emitting surface, and hardening the precursor thereafter to form the reflectivity adjustment layer on the emitting surface so as to form the reflectivity adjustment layer on the emitting surface.

20. A method of manufacturing a surface emitting semiconductor laser including a resonator formed on a substrate and emitting a laser beam toward a direction vertical to the substrate from the emitting surface formed on the upper surface of the resonator, comprising:

forming a resonator on the substrate;

forming a first electrode and a second electrode to inject a current into the resonator, at least a part of the first electrode being formed on the upper surface of the resonator and an aperture is formed on the upper surface of the resonator,and

forming the reflectivity adjustment layer on the emitting surface .

21. The method of manufacturing a surface emitting semiconductor laser claimed in claim 20, forming the reflectivity adjustment layer further comprising forming a precursor of the reflectivity adjustment layer with ejecting a droplet onto the emitting surface, and hardening the precursor thereafter to form the reflectivity adjustment layer on the emitting surface.